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## About the Author

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I would personally like to thank our returning subscribers for your support of our online Journal of Light and Lasers. Your feedback is always appreciated, and we will continue to offer our free newsletter to you. If, at any time, you are NOT interested in receiving this journal on the scientific effects of light and laser therapy, please click on the unsubscribe icon at the bottom of this newsletter.

### **Cold Lasers are Better than Hot Lasers for Wound Healing**

We are continuing to see more studies that validate the effectiveness of laser and light therapy to stimulate wound healing. However, they are also showing hotter lasers slow down healing, relative to colder lasers.

This study (Photodermatol Photoimmunol Photomed. 2009 Apr; 25 (2):75-80) was performed using 980 nm infrared light. Cell growth rates were compared across different laser exposure intensities with the same exposure duration, and across different laser exposure durations with the same exposure intensity. It was found that exposure to low- and medium-intensity laser light accelerates cell growth, whereas high-intensity light negated the beneficial effects of laser exposure. It was concluded that low-level exposure to 980 nm laser light can accelerate wound healing without measurable temperature increases.

This study and many others are continuing to show that a powerful, cold laser is more effective at stimulating healing than a hot laser with higher exposure times.

### **Laser Stimulates Brain Regeneration**

A recent study by one of lasers leading researchers, Dr. Rockkind, a neurosurgeon, demonstrated that laser stimulates regeneration of nerves in the brain.

In this study (Lasers Surg Med. 2009 Apr; 41(4):277-81) he looked at the effect of 780 nm laser irradiation on the growth of embryonic rat brain cultures. Whole brains were dissected and were either irradiated with near-infrared 780 nm laser beam for 1, 4, or 7 minutes, or cultured without irradiation. Laser powers were 10, 30, 50, 110, 160, 200, and [250 mW](#). 780 nm laser irradiation accelerated fiber sprouting and neuronal cell migration.

Furthermore, unlike control cultures, the irradiated cultures contained a much higher number of large size neurons which formed dense branched interconnected networks of thick neuronal

**Curtis Turchin, M.A., D.C.** has a bachelor's degree in pre-medical studies from the University of Southern California, a master's degree in Special Education from San Francisco State University, and a doctor of chiropractic from Palmer College. He is in private practice near San Francisco using manual therapies and lasers in a practice with a physician. He has published 3 books, more than 20 journal articles, and has been extensively interviewed on radio and television. Dr. Turchin is the author of the new text, *Light and Laser Therapy: Clinical Procedures*, described as the authoritative text on clinical laser treatment as well as, *Treating Addictions with Laser Therapy*, the only book published on this subject.

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fibers. It was his conclusion as a neurosurgeon, that laser therapy should be considered as potential procedure for cell therapy of neuronal brain injury or disease.

## Lasers, Especially Cold Lasers, Helpful for Cancer Therapies

Oral mucositis is a dose-limiting and painful side effect of radiotherapy and/or chemotherapy in cancer patients. The purpose of the present study was to analyze the effect of different protocols of low level laser therapy (LLLT) on the grade of mucositis and degree of pain in patients under radiotherapy.

Thirty-nine patients were divided into three groups: G1, where the irradiations were done three times a week using low power laser; G2, where combined high and low power lasers were used three time a week; and G3, where patients received low power laser irradiation once a week. All protocols of LLLT were beneficial, except the patients in the group that received the treatment once per week had more pain and the group receiving the higher power treatment suffered from an increased healing time. This is more substantiation that to stimulate healing, regular treatments with cooler lasers are better than hotter lasers, especially with oral mucositis. *Lasers Surg Med.* 2009 Apr; 41(4):264-70

## Laser Helps Morphine Addiction

One of the most controversial aspects of laser therapy concerns the use of laser to help patients who abuse cigarettes, alcohol, and other addictive substances. In the present study, the effects of low-intensity laser therapy (LILT) on morphine-dependent rats were examined. Low-intensity lasers with a power density of 12.5 J/cm<sup>2</sup> significantly decreased total addiction behavior in the rats, again demonstrating the probable benefit from laser therapy to reduce cravings for many types of drugs.

It is intriguing because laser therapy can increase the body's production of natural opioids. Thus, it makes sense that it might be of benefit to relieve the somatic effects of many types of addictive substances. *Behav Brain Res.* 2009 Jan 23; 196(2):268-70

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**Thank you!**

I will try to bring you unbiased, evidence based information on a regular basis to help you understand this new and exciting modality. If you would like to see any particular topics or have any comments or suggestions, please email me, Curtis Turchin, MA, DC at: [dr.turchin@yahoo.com](mailto:dr.turchin@yahoo.com) (yes, that is dr dot turchin @ yahoo.com)

**Dr. Turchin**

Sincerely,

Dr. Curtis Turchin

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